

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P239314

Luminaire Tested: **HDF-2-LD4-UNV-1-LO-35-OPL-EDC-1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P239314  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1711-412-20)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: HDF-2-LD4-UNV-1-LO-35-OPL-EDC-1  
Description: FAILSAFE HDF LED FIXTURE  
2FT, 1-ROW LED BOARDS, OPAL LENS  
Light Source: (42) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

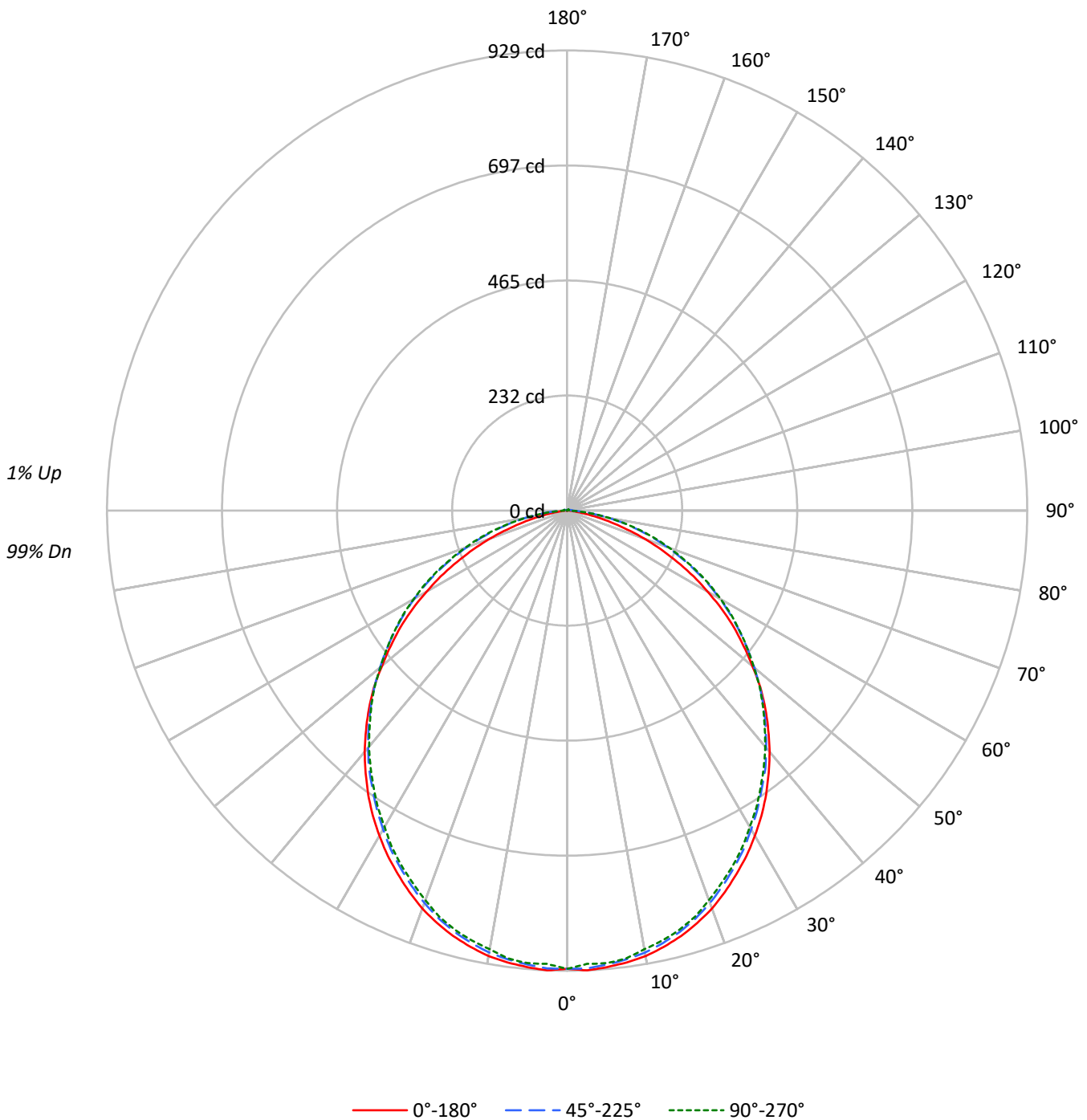
Lumens per Lamp: N/A  
Luminaire Lumens: 2412.0 lumens  
Efficiency: N/A  
Efficacy: 97.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.19 / 1.31  
Luminous Opening: Rectangular (W 0.58' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 24.7  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	101	101	101	99
1	109	104	100	97	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76	82	78	74	79	76	73	70
3	91	80	73	66	88	79	71	66	76	69	64	73	68	63	70	66	62	60
4	83	72	63	56	81	70	62	56	68	61	55	65	59	54	63	58	53	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8535	8535	8535
5°	8568	8521	8494
10°	8554	8489	8423
15°	8492	8406	8368
20°	8396	8278	8219
25°	8237	8104	8053
30°	8076	7917	7853
35°	7885	7716	7671
40°	7661	7529	7493
45°	7386	7321	7295
50°	7006	7078	7063
55°	6613	6838	6854
60°	6036	6571	6608
65°	5349	6222	6309
70°	4478	5773	5908
75°	3280	5240	5383
80°	1913	4516	4622
85°	953	3811	3599



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.4	3.6
10°-20°	248.2	10.3
20°-30°	367.4	15.2
30°-40°	430.1	17.8
40°-50°	432.3	17.9
50°-60°	375.9	15.6
60°-70°	272.8	11.3
70°-80°	144.5	6.0
80°-90°	37.4	1.6
90°-100°	7.0	0.3
100°-110°	4.3	0.2
110°-120°	2.3	0.1
120°-130°	1.6	0.1
130°-140°	0.8	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	703.0	29.1
0°-40°	1133.1	47.0
0°-60°	1941.2	80.5
0°-90°	2396.0	99.3
90°-120°	13.5	0.6
90°-150°	15.9	0.7
90°-180°	16.0	0.7
0°-180°	2412.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	925	924	920	916	917	88
15°	889	885	880	877	876	251
25°	809	803	796	792	791	373
35°	700	691	685	682	681	438
45°	566	559	561	560	559	436
55°	411	411	425	428	426	366
65°	245	259	285	291	289	243
75°	92	121	147	153	151	100
85°	9	28	36	36	34	13
90°	0	9	10	9	6	1
95°	0	6	9	8	6	0
105°	0	2	5	6	5	1
115°	1	1	3	3	3	1
125°	1	1	2	2	3	1
135°	1	1	2	2	2	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CATALOG NUMBER: HDF-2-LD4-UNV-1-LO-35-OPL-EDC-1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	925.1	925.1	925.1	925.1	925.1
2.5°	929.1	928.1	925.1	919.1	916.1
5°	925.1	924.1	920.1	916.1	917.1
7.5°	920.1	918.1	914.1	911.1	912.1
10°	913.1	910.1	906.1	901.1	899.1
12.5°	902.1	900.1	894.1	889.1	889.1
15°	889.1	885.1	880.1	877.1	876.1
17.5°	873.1	868.1	863.1	859.1	859.1
20°	855.1	849.1	843.1	838.1	837.1
22.5°	833.1	827.1	820.1	815.1	814.1
25°	809.1	803.1	796.1	792.1	791.1
27.5°	785.1	777.1	771.1	766.1	766.1
30°	758.1	750.1	743.1	739.1	737.1
32.5°	730.1	721.1	715.1	711.1	711.1
35°	700.1	691.1	685.1	682.1	681.1
37.5°	668.1	660.1	657.1	654.1	652.1
40°	636.1	628.1	625.1	623.1	622.1
42.5°	601.1	594.1	593.1	591.1	590.1
45°	566.1	559.1	561.1	560.1	559.1
47.5°	529.1	524.1	528.1	528.1	527.1
50°	488.1	486.1	493.1	495.1	492.1
52.5°	449.1	448.1	459.1	461.1	459.1
55°	411.1	411.1	425.1	428.1	426.1
57.5°	370.1	373.1	391.1	395.1	393.1
60°	327.1	335.1	356.1	360.1	358.1
62.5°	288.0	297.0	321.1	327.1	324.1
65°	245.0	259.0	285.0	291.0	289.0
67.5°	205.0	222.0	249.0	256.0	253.0
70°	166.0	186.0	214.0	220.0	219.0
72.5°	127.0	153.0	180.0	186.0	185.0
75°	92.0	121.0	147.0	153.0	151.0
77.5°	61.0	93.0	116.0	120.0	118.0
80°	36.0	68.0	85.0	88.0	87.0
82.5°	19.0	46.0	58.0	60.0	58.0
85°	9.0	28.0	36.0	36.0	34.0
87.5°	4.0	15.0	18.0	17.0	15.0
90°	0.0	9.0	10.0	9.0	6.0
92.5°	0.0	7.0	9.0	8.0	6.0
95°	0.0	6.0	9.0	8.0	6.0
97.5°	0.0	4.0	8.0	8.0	6.0
100°	0.0	3.0	7.0	8.0	6.0
102.5°	0.0	3.0	6.0	7.0	6.0
105°	0.0	2.0	5.0	6.0	5.0
107.5°	1.0	2.0	4.0	5.0	4.0
110°	1.0	2.0	3.0	4.0	4.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	3.0	4.0	3.0
115°	1.0	1.0	3.0	3.0	3.0
117.5°	1.0	1.0	2.0	3.0	3.0
120°	1.0	1.0	2.0	3.0	3.0
122.5°	1.0	1.0	2.0	3.0	3.0
125°	1.0	1.0	2.0	2.0	3.0
127.5°	1.0	1.0	2.0	2.0	2.0
130°	1.0	1.0	2.0	2.0	2.0
132.5°	1.0	1.0	2.0	2.0	2.0
135°	1.0	1.0	2.0	2.0	2.0
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)